#### Appointment

From: Manning, Bryan [manning.bryan@epa.gov]

Sent: 11/17/2015 9:45:17 PM

To: Manning, Bryan [manning.bryan@epa.gov]; Sarofim, Marcus [Sarofim.Marcus@epa.gov]; Jantarasami, Lesley

[Jantarasami.Lesley@epa.gov]; Davidson, Ken [Davidson.Ken@epa.gov]; Samulski, Michael

[samulski.michael@epa.gov]; Rennert, Kevin [Rennert.Kevin@epa.gov]; Marten, Alex [Marten.Alex@epa.gov];

Griffiths, Charles [Griffiths.Charles@epa.gov]; Shouse, Kate [Shouse.Kate@epa.gov]; Kopits, Elizabeth [Kopits.Elizabeth@epa.gov]; Yen, David [Yen.David@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]

FAA/MIT cost-benefit analysis: Call for staff (call Ex. 6 - Personal Privacy), code Ex. 6 - Personal Privacy Subject:

Attachments: 2015 11 17 Technical comments on FAA CO2 informational CBA.DOCX

AA-Room-Office-N62-ASDCDConfRoom/AA-OTAQ-OFFICE Location:

Start: 11/18/2015 6:00:00 PM 11/18/2015 7:00:00 PM End:

Show Time As: Busy

Hello,

Call Ex. 6 - Personal Privacy ode Ex. 6 - Personal Privacy For this staff call, we will discuss the attached draft technical comments (which OAP and OP/NCEE provided earlier today) on the draft US info papers with the FAA/MIT cost-benefit analysis. We are having this call prior to sending our comments to FAA. Look forward to talking to you tomorrow at 1:00 pm eastern.

Thanks,

Bryan

2015 11 17

Technical comm...

From: Manning, Bryan [manning.bryan@epa.gov]

**Sent**: 1/6/2015 7:23:14 PM

To: Jantarasami, Lesley [Jantarasami.Lesley@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Audette, Lucie

[audette.lucie@epa.gov]

Subject: FW: Updated small jet data and documentation - ready for review

Attachments: GHG Small Jet Inventory-12-22-2014\_JF\_jt.docx; T100 and GAATA Fuel Burn and CO2 Emissions\_12-18-2014.xlsx

Hello Lesley,

Attached is the draft report from ERG (dated Dec 23). Also, they have attached their latest results in the spreadsheet. Due to holidays, I have not begun to review these attachments yet. They sent the draft report to the peer

### Ex. 5 - Deliberative Process

#### Ex. 5 - Deliberative Process

Let me know

if you have any comments or questions on the attachments.

Thank you,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Richard Billings [mailto:Richard.Billings@erg.com]

Sent: Tuesday, December 23, 2014 3:39 PM
To: Manning, Bryan; Maeroff, Bruce; Yen, David

Cc: James Chesnut; Jennifer Sellers

Subject: Updated small jet data and documentation - ready for review

We took out the DC6 and the Antonov 12.

### Ex. 5 - Deliberative Process

## Ex. 5 - Deliberative Process

Will send this to ICF. Let me know if you have any questions or thoughts.

Have a great holiday.

Richard



#### Richard Billings

Eastern Research Group 1600 Perimeter Park Orive, Morrisville, NC 27560 (919) 468-7812

From: Manning, Bryan [manning.bryan@epa.gov]

**Sent**: 11/17/2014 10:00:38 PM

To: Leggett, Cullen [Leggett.Cullen@epa.gov]

Subject: Revised Section V - ANPR
Attachments: Sec V ANPRM 11-17-14b.docx

Hello Cullen,

As we discussed, attached please find the revised ANPR. Let's talk when you have a chance.

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Manning, Bryan [manning.bryan@epa.gov]

**Sent**: 1/15/2015 4:42:31 PM

To: Richard Billings [Richard.Billings@erg.com]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Yen, David

[Yen.David@epa.gov]

CC: James Chesnut [James.Chesnut@erg.com]; Jennifer Sellers [Jennifer.Sellers@erg.com]; Leggett, Cullen

[Leggett.Cullen@epa.gov]

Subject: RE: Updated small jet data and documentation - ready for review (EPA Comments)

Attachments: GHG Small Jet Inventory-12-22-2014+EPA.docx

#### Hello Richard.

Good work on this first draft report. Attached please find our comments – including comments from EPA's OAP. Also, OAP mentioned to me that we should probably have more than 1 peer reviewer for the report. Do you have any suggestions for a second peer reviewer, realizing we need to get them onboard quickly. Thave a suggestion for a potential peer reviewer, but we should talk first.

In addition, we appreciate your effort on the attached spreadsheet, and we think your latest results/analysis are probably the best that can be done at this point. We do not think any further work needs to be done on crunching these numbers.

Let me know if you have any questions on our attached comments. We should probably chat by phone sometime next week when you return from TRB, so send me a note whey you are ready to talk (or ready to schedule a call).

Thank you,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Richard Billings [mailto:Richard.Billings@erg.com]

**Sent:** Tuesday, December 23, 2014 3:39 PM **To:** Manning, Bryan; Maeroff, Bruce; Yen, David

Cc: James Chesnut; Jennifer Sellers

Subject: Updated small jet data and documentation - ready for review

We took out the DC6 and the Antonov 12.

Never got anything back from Bombardier, but

Ex. 5 - Deliberative Process

## Ex. 5 - Deliberative Process

# Ex. 5 - Deliberative Process

Will send this to ICF. Let me know if you have any questions or thoughts.

Have a great holiday.

Richard



Richard Billings
Eastern Research Group
1600 Perimeter Park Drive, Morrisville, NC 27560
(919) 468-7812

From: Leggett, Cullen [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8DBC6E558E2342BE994D56FD13F48765-LEGGETT, CULLEN]

**Sent**: 11/19/2014 10:53:40 PM

To: Manning, Bryan [manning.bryan@epa.gov]

Subject: RE: Revised Section V - ANPR
Attachments: Sec V ANPRM 11-17-14b+CL.docx

Bryan,

Here is the latest version that I have. I'm going to work on it a bit more tomorrow.

From: Manning, Bryan

Sent: Monday, November 17, 2014 5:01 PM

To: Leggett, Cullen

Subject: Revised Section V - ANPR

Hello Cullen,

As we discussed, attached please find the revised ANPR. Let's talk when you have a chance.

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: David Cooley [David Cooley@abtassoc.com]

**Sent**: 6/9/2016 6:57:44 PM

To: Williams, Melina [Williams.Melina@epa.gov]; Audette, Lucie [audette.lucie@epa.gov]; Jantarasami, Lesley

[Jantarasami.Lesley@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Brunner, Christine

[brunner.christine@epa.gov]

CC: Barbara J. Bauer [Barbara\_Bauer@abtassoc.com]; Molly Teague [Molly\_Teague@abtassoc.com]; Matt Malachowski

[Matt\_Malachowski@abtassoc.com]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Attachments: copy Aircraft Draft RTC Document 2016-06-09 255 pm.docx

Can you try to upload this version to Sharepoint to see if it works? We think the problem has to do with the footer, and we removed all formatting from the footer. Hopefully that will fix it. Please let me know if you continue to have problems.

We apologize for the inconvenience.

Thanks, David

From: Williams, Melina [mailto:Williams.Melina@epa.gov]

**Sent:** Thursday, June 09, 2016 2:44 PM

**To:** David Cooley; Audette, Lucie; Jantarasami, Lesley; Manning, Bryan; Brunner, Christine **Cc:** Barbara J. Bauer; Molly Teague; Matt Malachowski; Leggett, Cullen; Thrift, Mike

**Subject:** RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

I did download a copy before it became unresponsive (attached), but I'm not sure if this includes all the latest edits. (I think Lesley may still have been working in it after this download.)

Melina Williams | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | phone: (202) 564-3406 | fax: (202) 564-5603

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From: David Cooley [mailto:David Cooley@abtassoc.com]

Sent: Thursday, June 09, 2016 2:41 PM

**To:** Audette, Lucie <a dots: Audette.lucie@epa.gov>; Williams, Melina <<u>Williams.Melina@epa.gov</u>>; Jantarasami, Lesley <<u>Jantarasami.Lesley@epa.gov</u>>; Manning, Bryan <<u>manning.bryan@epa.gov</u>>; Brunner, Christine <a href="maintaing-bryan@epa.gov">brunner.christine@epa.gov</a>>

Cc: Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski <<u>Matt Malachowski@abtassoc.com</u>>; Leggett, Cullen <<u>Leggett.Cullen@epa.gov</u>>; Thrift, Mike <<u>thrift.mike@epa.gov</u>>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi all,

Are you still able to download the file? If so, could you send me the latest version? I can take a look to see what may be causing the issue.

Thanks, David From: Audette, Lucie [mailto:audette.lucie@epa.gov]

**Sent:** Thursday, June 09, 2016 2:33 PM

To: Williams, Melina; David Cooley; Jantarasami, Lesley; Manning, Bryan; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Leggett, Cullen; Thrift, Mike

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

I can no longer access the document as well.

From: Williams, Melina

Sent: Thursday, June 09, 2016 2:32 PM

**To:** David Cooley <<u>David Cooley@abtassoc.com</u>>; Jantarasami, Lesley <<u>Jantarasami.Lesley@epa.gov</u>>; Manning, Bryan <a href="manning.bryan@epa.gov">manning.bryan@epa.gov</a>>; Brunner, Christine <a href="manning.bryan@epa.gov">bryan@epa.gov</a>>; Brunner, Christine <a href="manning.bryan@epa.gov">bryan@epa.gov</a>>

**Cc:** Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski <<u>Matt Malachowski@abtassoc.com</u>>; Audette, Lucie <<u>audette.lucie@epa.gov</u>>; Leggett, Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Is anyone else having trouble with the document now? I couldn't upload edits earlier so closed out, and now I don't seem to be able to open it at all.

Melina Williams | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | phone: (202) 564-3406 | fax: (202) 564-5603

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From: David Cooley [mailto:David\_Cooley@abtassoc.com]

Sent: Thursday, June 09, 2016 11:50 AM

**To:** Jantarasami, Lesley < <u>Jantarasami, Lesley@epa,gov</u>>; Williams, Melina < <u>Williams, Melina@epa,gov</u>>; Manning, Bryan <a href="maintaing-bryan@epa,gov">manning, Bryan@epa,gov">manning, Bryan@epa,gov</a>>; Brunner, Christine <a href="maintaing-bryan@epa,gov">bryan@epa,gov</a>>; Brunner, Christine <a href="maintaing-bryan@epa,gov">bryan@epa,gov</a>>; Brunner, Christine <a href="maintaing-bryan@epa,gov">bryan@epa,gov</a>>; Brunner, Christine <a href="maintaing-bryan@epa,gov">bryan@epa,gov</a>>; Brunner, Christine <a href="maintaing-bryan@epa,gov">bryan@epa,gov</a>>

Cc: Barbara J. Bauer < Barbara Bauer@abtassoc.com >; Molly Teague < Molly Teague@abtassoc.com >; Matt Malachowski < Matt Malachowski@abtassoc.com >; Audette, Lucie < audette.lucie@epa.gov >; Leggett, Cullen@epa.gov >; Thrift, Mike < thrift.mike@epa.gov >

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Apologies for the issues with the document. I'm glad it seems to be working, but if you notice any other problems, please let me know.

Thanks, David

From: Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

Sent: Thursday, June 09, 2016 11:43 AM

To: Williams, Melina; David Cooley; Manning, Bryan; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Leggett, Cullen; Thrift, Mike

**Subject:** RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

The doc is opening fine but I'm still occasionally getting that error message that the table is corrupt when I save in Sharepoint. It doesn't really seem to be affecting anything, though, so for now I'm ignoring it.

Lesley

From: Williams, Melina

Sent: Wednesday, June 08, 2016 6:06 PM

To: Jantarasami, Lesley < Jantarasami.Lesley@epa.gov>; David Cooley < David Cooley@abtassoc.com>; Manning, Bryan

<manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer < Barbara Bauer@abtassoc.com >; Molly Teague < Molly Teague@abtassoc.com >; Matt Malachowski <Malt Malachowski@abtassoc.com>; Audette, Lucie <a drawfarful comparts and a compart of the comparts of the compar <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

It looked okay to me ....

Melina Williams | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | phone: (202) 564-3406 | fax: (202) 564-5603

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From: Jantarasami, Lesley

Sent: Wednesday, June 08, 2016 5:25 PM

To: David Cooley <David\_Cooley@abtassoc.com>; Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer <Barbara Bauer@abtassoc.com>; Molly Teague <Molly Teague@abtassoc.com>; Matt Malachowski <Matt Malachowski@abtassoc.com>; Audette, Lucie <a drawfarful candidate and the company of the comp <<u>Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Williams, Melina <Williams.Melina@epa.gov></u> Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

I've uploaded the file David sent to Sharepoint. It opens fine and looks correct to me, but others should test it too.

Thanks,

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

Sent: Wednesday, June 08, 2016 5:16 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer <Barbara Bauer@abtassoc.com>; Molly Teague <Molly Teague@abtassoc.com>; Matt Malachowski < Matt\_Malachowski@abtassoc.com>; Audette, Lucie < audette.lucie@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Williams, Melina < Williams. Melina@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi Chris and Bryan,

Sorry this has taken so long. I've been trying to update the file in between calls this afternoon.

I've attached the updated file here. You should be able to upload it to Sharepoint with no problem. But please let me know if you still have any problems.

Sorry for the inconvenience, but this version should work for you.

Thanks.

David

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Wednesday, June 08, 2016 5:13 PM **To:** David Cooley; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Jantarasami, Lesley; Leggett, Cullen; Thrift, Mike;

Williams, Melina

**Subject:** RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Sorry to bother you again. I was just checking in to see if you are having any success in fixing the corrupted RTC document. Any thoughts?

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: David Cooley [mailto:David Cooley@abtassoc.com]

Sent: Wednesday, June 08, 2016 2:48 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer < Barbara Bauer@abtassoc.com >; Molly Teague < Molly Teague@abtassoc.com >; Matt Malachowski < Matt Malachowski@abtassoc.com >; Audette, Lucie < audette.lucie@epa.gov >; Jantarasami, Lesley < Jantarasami, Lesley@epa.gov >; Leggett, Cullen < Leggett, Cullen@epa.gov >; Thrift, Mike < thrift.mike@epa.gov >; Williams, Melina < Williams, Melina @epa.gov >

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi Chris and Bryan,

The issue seems to be related to the footers. We've had this issue arise one other time with Sharepoint, and when we removed the tables in the footers it fixed the problem. We can do that for you if you'd like and have the document back to you later this afternoon. Would that work for you?

Thanks, David

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Wednesday, June 08, 2016 2:07 PM

To: Brunner, Christine

Cc: David Cooley; Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Jantarasami, Lesley; Leggett,

Cullen; Thrift, Mike; Williams, Melina

Subject: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hello,

After we added in the table with the list of organizations that commented on the aircraft GHG endangerment NPRM, our report or RTC document (exported document from aircraft CERT) that we were working on in SharePoint became corrupted. The document now has very strange pagination and footers. I am attaching the corrupted file. I tried to delete the table, but that does not seem to fix the problem. Do you know how to possibly uncorrupt the document? If so, could you fix the document?

Thanks,

#### Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

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From: Williams, Melina [Williams.Melina@epa.gov]

**Sent**: 6/9/2016 6:44:23 PM

To: David Cooley [David Cooley@abtassoc.com]; Audette, Lucie [audette.lucie@epa.gov]; Jantarasami, Lesley

[Jantarasami.Lesley@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Brunner, Christine

[brunner.christine@epa.gov]

CC: Barbara J. Bauer [Barbara\_Bauer@abtassoc.com]; Molly Teague [Molly\_Teague@abtassoc.com]; Matt Malachowski

[Matt\_Malachowski@abtassoc.com]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Attachments: copy Aircraft Draft RTC Document 2016-06-09 230 pm.docx

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Melina Williams | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | phone: (202) 564-3406 | fax: (202) 564-5603

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From: David Cooley [mailto:David\_Cooley@abtassoc.com]

Sent: Thursday, June 09, 2016 2:41 PM

To: Audette, Lucie <audette.lucie@epa.gov>; Williams, Melina <Williams.Melina@epa.gov>; Jantarasami, Lesley

<Jantarasami.Lesley@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine

<brunner.christine@epa.gov>

**Cc:** Barbara J. Bauer <Barbara\_Bauer@abtassoc.com>; Molly Teague <Molly\_Teague@abtassoc.com>; Matt Malachowski <Matt\_Malachowski@abtassoc.com>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike

<thrift.mike@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi all,

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Thanks, David

From: Audette, Lucie [mailto:audette.lucie@epa.gov]

**Sent:** Thursday, June 09, 2016 2:33 PM

To: Williams, Melina; David Cooley; Jantarasami, Lesley; Manning, Bryan; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Leggett, Cullen; Thrift, Mike

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From: Williams, Melina

Sent: Thursday, June 09, 2016 2:32 PM

To: David Cooley <a href="mailto:David Cooley@abtassoc.com">David Cooley@abtassoc.com</a>; Jantarasami, Lesley <a href="mailto:Lesley@epa.gov">Jantarasami, Lesley@epa.gov</a>; Manning, Bryan

<manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

**Cc:** Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski <<u>Matt Malachowski@abtassoc.com</u>>; Audette, Lucie <<u>audette.lucie@epa.gov</u>>; Leggett, Cullen

<Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

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Sent: Thursday, June 09, 2016 11:50 AM

**To:** Jantarasami, Lesley < <u>Jantarasami, Lesley@epa.gov</u>>; Williams, Melina < <u>Williams, Melina@epa.gov</u>>; Manning, Bryan <a href="mainto:manning.bryan@epa.gov">manning.bryan@epa.gov</a>>; Brunner, Christine <a href="mainto:bryan@epa.gov">brunner, Christine@epa.gov</a>>

Cc: Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski <<u>Matt Malachowski@abtassoc.com</u>>; Audette, Lucie <<u>audette.lucie@epa.gov</u>>; Leggett, Cullen <<u>Leggett.Cullen@epa.gov</u>>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Apologies for the issues with the document. I'm glad it seems to be working, but if you notice any other problems, please let me know.

Thanks, David

From: Jantarasami, Lesley [mailto:Jantarasami,Lesley@epa.gov]

**Sent:** Thursday, June 09, 2016 11:43 AM

To: Williams, Melina; David Cooley; Manning, Bryan; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Leggett, Cullen; Thrift, Mike

**Subject:** RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

The doc is opening fine but I'm still occasionally getting that error message that the table is corrupt when I save in Sharepoint. It doesn't really seem to be affecting anything, though, so for now I'm ignoring it.

Lesley

From: Williams, Melina

Sent: Wednesday, June 08, 2016 6:06 PM

**To:** Jantarasami, Lesley < <u>Jantarasami.Lesley@epa.gov</u>>; David Cooley < <u>David Cooley@abtassoc.com</u>>; Manning, Bryan <a href="manning.bryan@epa.gov">manning.bryan@epa.gov</a>>; Brunner, Christine <a href="manning.bryan@epa.gov">bryan@epa.gov</a>>; Brunner, Christine <a href="manning.bryan@epa.gov">bryan@epa.gov</a>); Brunner, Christine <a href="manning.bryan@epa.gov">bryan@epa.gov</a>)

Cc: Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski <<u>Matt Malachowski@abtassoc.com</u>>; Audette, Lucie <<u>audette.lucie@epa.gov</u>>; Leggett, Cullen@epa.gov>; Thrift, Mike <<u>thrift.mike@epa.gov</u>>

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

It looked okay to me ....

Melina Williams | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | phone: (202) 564-3406 | fax: (202) 564-5603

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From: Jantarasami, Lesley

Sent: Wednesday, June 08, 2016 5:25 PM

To: David Cooley < <u>David Cooley@abtassoc.com</u>>; Manning, Bryan < <u>manning.bryan@epa.gov</u>>; Brunner, Christine

<brunner.christine@epa.gov>

Cc: Barbara J. Bauer <<u>Barbara Bauer@abtassoc.com</u>>; Molly Teague <<u>Molly Teague@abtassoc.com</u>>; Matt Malachowski@abtassoc.com>; Audette, Lucie <<u>audette.lucie@epa.gov</u>>; Leggett, Cullen <<u>Leggett.Cullen@epa.gov</u>>; Thrift, Mike <<u>thrift.mike@epa.gov</u>>; Williams, Melina <<u>Williams.Melina@epa.gov</u>> Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

I've uploaded the file David sent to Sharepoint. It opens fine and looks correct to me, but others should test it too.

Thanks,

Lesley

From: David Cooley [mailto:David\_Cooley@abtassoc.com]

Sent: Wednesday, June 08, 2016 5:16 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer < Barbara Bauer@abtassoc.com >; Molly Teague < Molly Teague@abtassoc.com >; Matt Malachowski < Matt Malachowski@abtassoc.com >; Audette, Lucie < audette.lucie@epa.gov >; Jantarasami, Lesley < Jantarasami, Lesley@epa.gov >; Leggett, Cullen < Leggett.Cullen@epa.gov >; Thrift, Mike < thrift.mike@epa.gov >; Williams, Melina < Williams, Melina @epa.gov >

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi Chris and Bryan,

Sorry this has taken so long. I've been trying to update the file in between calls this afternoon.

I've attached the updated file here. You should be able to upload it to Sharepoint with no problem. But please let me know if you still have any problems.

Sorry for the inconvenience, but this version should work for you.

Thanks, David

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Wednesday, June 08, 2016 5:13 PM **To:** David Cooley; Brunner, Christine

Cc: Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Jantarasami, Lesley; Leggett, Cullen; Thrift, Mike;

Williams, Melina

**Subject:** RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Sorry to bother you again. I was just checking in to see if you are having any success in fixing the corrupted RTC document. Any thoughts?

Thanks,

Bryan

**Bryan Manning** 

U.S. EPA Office of Transportation and Air Quality Large Marine and Aviation Center 2000 Traverwood Drive Ann Arbor, MI 48105 (ph) 734-214-4832 (fax) 734-214-4816 manning.bryan@epa.gov

From: David Cooley [mailto:David Cooley@abtassoc.com]

Sent: Wednesday, June 08, 2016 2:48 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>

Cc: Barbara J. Bauer < Barbara Bauer@abtassoc.com >; Molly Teague < Molly Teague@abtassoc.com >; Matt Malachowski < Matt Malachowski@abtassoc.com >; Audette, Lucie < audette.lucie@epa.gov >; Jantarasami, Lesley < Jantarasami, Lesley@epa.gov >; Leggett, Cullen < Leggett.Cullen@epa.gov >; Thrift, Mike < thrift.mike@epa.gov >; Williams, Melina < Williams, Melina @epa.gov >

Subject: RE: RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hi Chris and Bryan,

The issue seems to be related to the footers. We've had this issue arise one other time with Sharepoint, and when we removed the tables in the footers it fixed the problem. We can do that for you if you'd like and have the document back to you later this afternoon. Would that work for you?

Thanks, David

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Wednesday, June 08, 2016 2:07 PM

To: Brunner, Christine

Cc: David Cooley; Barbara J. Bauer; Molly Teague; Matt Malachowski; Audette, Lucie; Jantarasami, Lesley; Leggett,

Cullen; Thrift, Mike; Williams, Melina

**Subject:** RTC document is corrupted after adding in list of organizations table (aircraft GHG endangerment FRM)

Hello,

After we added in the table with the list of organizations that commented on the aircraft GHG endangerment NPRM, our report or RTC document (exported document from aircraft CERT) that we were working on in SharePoint became corrupted. The document now has very strange pagination and footers. I am attaching the corrupted file. I tried to delete the table, but that does not seem to fix the problem. Do you know how to possibly uncorrupt the document? If so, could you fix the document?

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

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From: Yen, David [Yen.David@epa.gov]

**Sent**: 10/6/2016 8:02:54 PM

To: Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Samulski, Michael

[samulski.michael@epa.gov]

**Subject**: Draft GHG Model Comparison Summary

Attachments: DraftModelComparisonSummary\_100616.docx; Information to support rulemaking of ICAO Member

States\_Draftv6\_final\_clean.docx

Attached please find the draft summary document we talked about. Please review and comment.

I also attach the "RIA" summary document that had been approved in Feb (for CAEP10 Report) for your reference. Section 5 covers the background for modeling approach, fleet evolution and GHG models. The model comparison summary is to complement the RIA summary and provide more details on model comparison results.

Thanks,

David

From: David Cooley [David\_Cooley@abtassoc.com]

**Sent**: 7/19/2016 6:00:48 PM

To: Jantarasami, Lesley [Jantarasami.Lesley@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]

CC: Brunner, Christine [brunner.christine@epa.gov]; Barbara J. Bauer [Barbara\_Bauer@abtassoc.com]

**Subject**: RE: latest Aircraft RTC document

Attachments: Aircraft Draft RTC Document 2016-07-19 clean.docx

Hi Chris and Lesley,

See attached for a clean version of the updated RTC document. We copyedited the document, and checked all of the comment document IDs in the comment summaries to make sure they matched the organizations listed in each section.

### Ex. 5 - Deliberative Process

Please let me know if you have any questions or if you'd like to see the tracked changes version of this document.

Thanks, David

**From:** Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

**Sent:** Tuesday, July 19, 2016 12:17 PM **To:** David Cooley; Manning, Bryan **Cc:** Brunner, Christine; Barbara J. Bauer **Subject:** RE: latest Aircraft RTC document

Hi David and Chris,

We're flexible so another hour or two would be fine.

Thanks,

Lesley

From: David Cooley [mailto:David\_Cooley@abtassoc.com]

**Sent:** Tuesday, July 19, 2016 12:16 PM

**To:** Jantarasami, Lesley < <u>Jantarasami.Lesley@epa.gov</u>>; Manning, Bryan < <u>manning.bryan@epa.gov</u>> **Cc:** Brunner, Christine < brunner.christine@epa.gov>; Barbara J. Bauer < Barbara Bauer@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris and Lesley,

We're mostly through with our review of the document, but it would be great to have another hour or two to finish up. Is your timeline flexible enough for that, or would you prefer we wrap things up and send it now?

Thanks, David

From: Jantarasami, Lesley [mailto:Jantarasami,Lesley@epa.gov]

**Sent:** Monday, July 18, 2016 11:27 AM **To:** David Cooley; Manning, Bryan

Cc: Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

Subject: RE: latest Aircraft RTC document

Thanks so much – please let us know if you have any questions about language in the document.

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

Sent: Monday, July 18, 2016 10:30 AM

To: Jantarasami, Lesley <a href="mailto:Jantarasami.Lesley@epa.gov">
Jantarasami, Lesley@epa.gov</a> ; Manning, Bryan <a href="mailto:Manning.bryan@epa.gov">
Manning.bryan@epa.gov</a> >

Cc: Brunner, Christine <a href="mailto:brunner.christine@epa.gov">brunner.christine@epa.gov</a>; Barbara J. Bauer <a href="mailto:Barbara\_Bauer@abtassoc.com">Barbara\_Bauer@abtassoc.com</a>; Molly Teague

<Molly\_Teague@abtassoc.com>; Matt Malachowski <Matt\_Malachowski@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris and Lesley,

We can do that. It's a little bit of a tight turnaround, but we should be able to get the document back to you by midday tomorrow.

Thanks, David

From: Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

**Sent:** Monday, July 18, 2016 9:55 AM **To:** David Cooley; Manning, Bryan

Cc: Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

Subject: RE: latest Aircraft RTC document

Hi Chris and David,

Sorry for not responding sooner- there's been a flurry of activity here and uncertainty about the signature date. We are currently moving ahead as if signature will occur this Wednesday, 7/20. Thus, would it be possible for you to turn this document around by noon or mid-day tomorrow? You can accept all the track changes in the attached and create a clean, copy-edited version for us with the two tasks we discussed below.

Thanks so much,

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

**Sent:** Tuesday, July 12, 2016 1:34 PM

To: Manning, Bryan < manning.bryan@epa.gov >; Jantarasami, Lesley < Jantarasami, Lesley@epa.gov >

Cc: Brunner, Christine < brunner.christine@epa.gov>; Barbara J. Bauer < Barbara Bauer@abtassoc.com>; Molly Teague

< Molly Teague@abtassoc.com>; Matt Malachowski < Matt Malachowski@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris, Lesley, and Bryan,

We'll plan to do those two tasks when we start copyediting the final document. Do you know your final timeline for when you'd like the copyedited document back? I just want to check on staff availability here.

Thanks, David

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Tuesday, July 12, 2016 12:54 PM **To:** Jantarasami, Lesley; David Cooley

Cc: Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

**Subject:** RE: latest Aircraft RTC document

The two points sound good to me.

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Jantarasami, Lesley

Sent: Tuesday, July 12, 2016 12:49 PM

To: David Cooley < David Cooley@abtassoc.com>

Cc: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <br/>
<br/>brunner.christine@epa.gov>; Barbara J. Bauer

<Barbara\_Bauer@abtassoc.com>; Molly Teague < Molly\_Teague@abtassoc.com>; Matt Malachowski

<Matt\_Malachowski@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris and David – I was out of the office yesterday but was able to forward this on to the people who needed it. Thanks for the quick turnaround! I think your two points below sound good, so unless Bryan objects, I think you should do those tasks when we send the final version for copy-editing. FYI that it looks like we should have the new file for you later this week.

Thanks!

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

**Sent:** Monday, July 11, 2016 12:12 PM

To: Jantarasami, Lesley < Jantarasami.Lesley@epa.gov>

Cc: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner.christine@epa.gov>; Barbara J. Bauer

<Barbara Bauer@abtassoc.com>; Molly Teague <Molly Teague@abtassoc.com>; Matt Malachowski

<Matt\_Malachowski@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris and Lesley,

See attached for the formatted Aircraft RTC document. Since you noted that it isn't the final version, we didn't do a full copyedit. However, we have a couple of questions for you for the next version:

### Ex. 5 - Deliberative Process

Thanks. David

From: Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

**Sent:** Friday, July 08, 2016 3:38 PM

To: David Cooley

Cc: Manning, Bryan; Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

Subject: RE: latest Aircraft RTC document

Argh, oh no! I was able to log in from home and found the correct file. Please let me know if there are problems with this one. And Monday morning is fine if that's what's needed – my fault for not double checking what I was sending.

Thanks!

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

**Sent:** Friday, July 08, 2016 3:30 PM

To: Jantarasami, Lesley < Jantarasami.Lesley@epa.gov>

Cc: Manning, Bryan <manning.bryan@epa.gov>; Brunner, Christine <brunner, christine@epa.gov>; Barbara J. Bauer

<Barbara Bauer@abtassoc.com>; Molly Teague < Molly Teague@abtassoc.com>; Matt Malachowski

<Matt Malachowski@abtassoc.com>

Subject: RE: latest Aircraft RTC document

Hi Chris and Lesley,

Unless I'm missing something it looks like the document you sent is the draft final rule, and not the response to comments document. The document you sent does not appear to have any lists of commenter names or any verbatim text.

Is there anyone else that could send us the response to comments document? Unfortunately, it would likely be Monday morning before we could get it back to you. Sorry for the delay.

Thanks, David

**From:** Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

**Sent:** Friday, July 08, 2016 3:18 PM

**To:** David Cooley

Cc: Manning, Bryan; Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

**Subject:** Re: latest Aircraft RTC document

Hi David,I'm out of the office so just now seeing this. Did you figure it out? Remember the detailed comments were only inserted for certain sections (4 and 5) if I remember correctly.

Lesley

Sent from my iPhone

On Jul 8, 2016, at 9:00 AM, David Cooley <a href="mailto:David Cooley@abtassoc.com">David Cooley@abtassoc.com</a> wrote:

Hi Chris and Lesley,

I might not be looking at this correctly, but I don't see the detailed comments or the list of commenter names in the document you sent. Is there another document with the comment summaries and responses, or am I missing it in this document?

Thanks, David

**From:** Jantarasami, Lesley [mailto:Jantarasami.Lesley@epa.gov]

**Sent:** Thursday, July 07, 2016 6:15 PM

To: David Cooley

Cc: Manning, Bryan; Brunner, Christine; Barbara J. Bauer; Molly Teague; Matt Malachowski

**Subject:** latest Aircraft RTC document

Hi Chris and David,

Great – here is the file. Here are the changes we are requesting (listed roughly in order of priority)

- 1. Remove the detailed comments from CERT that are inserted prior to the comment summaries.
- 2. Consolidate the commenter names/numbers to one list at the beginning of each section rather than right before each separate comment summary
- 3. Remove all of our comment bubbles **while keeping** the track changes in the text itself. The only exception is that I would like to clean up the titles of the sections and subsections, so you can accept the edits we've made to those.
- 4. Collapsing section 5 since there are so few comment summaries in this entire section, I would like to remove the subsections and have them all under one heading "Miscellaneous Legal, Economic, and Other Comments"
- 5. For one new comment summary currently at the top of section 5.4, we need to generate a list of commenter names and numbers. Please generate that based on this list of numbers: **(0916, 0747, 0834, 0863, 0860, 0568, 0732, 0526)**
- 6. Regenerate the table of contents based on the new section 5 and clean titles.
- 7. Add page numbers to the bottom of each page.

Please let me know if you have any questions. Thanks so much!

Lesley

From: David Cooley [mailto:David Cooley@abtassoc.com]

**Sent:** Thursday, July 07, 2016 4:45 PM

To: Jantarasami, Lesley < Jantarasami, Lesley@epa.gov>

**Cc:** Manning, Bryan <<u>manning.bryan@epa.gov</u>>; Brunner, Christine <<u>brunner.christine@epa.gov</u>>; Barbara J. Bauer <Barbara Bauer@abtassoc.com>; Molly Teague <Molly Teague@abtassoc.com>; Matt

Malachowski < Matt Malachowski@abtassoc.com >

Subject: Re: Aircraft RTC document seems corrupted again - could you help fix it?

Hi Chris and Lesley,

We can definitely get it back to you by COB tomorrow. Please send it over when you have a chance.

Thanks, David

\_\_

sent from mobile device

On Jul 7, 2016, at 2:46 PM, Jantarasami, Lesley < Jantarasami, Lesley@epa.gov> wrote:

Hello David and Chris,

Thanks again for your quick turnaround with the document last week! I was wondering if you might be able to help us again in turning around a new version of the RTC by COB tomorrow. I'll send you the document when I get back to my desk and specify exactly what I'm looking for. Note this won't be the final version so a copy edit won't be necessary at this point.

Thanks, Lesley

Sent from my iPhone

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<EO12866\_AircraftEF 5773 FR FRN\_20160707.docx>

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From: Amy Doll [adoll@endyna.com]

**Sent**: 1/11/2018 9:42:51 PM

To: Manning, Bryan [manning.bryan@epa.gov]; Viator, Catherine (viator@rti.org) [viator@rti.org]

CC: Jones, Jason [jasonjones@rti.org]; siddhanti@endyna.com; Mueller, John [mueller.john@epa.gov]; Yen, David

[Yen.David@epa.gov]

Subject: WA 1-15 -- Another review of Charge Questions / Draft Peer Review Materials Package

Attachments: EnDyna CO2 Tech-Cost Report Peer Review Package DRAFT\_11Jan2018.docx; Volume 1 EPA 2017 Aircraft CO2 Cost

Assessment 11-3-2017.docx; Volume 2 EPA 2017 Aerospace Industry Characterization 11-3-2017.docx

#### Hi Bryan

Although this is not a required deliverable, I wanted to provide you another opportunity to review the Charge Questions that I've now included in EnDyna's draft Peer Review Materials Package (see attached). I'll also ask RTI (our prime) if they have any comments/suggestions on EnDyna's draft Peer Review Materials Package.

Could you please send back any comments/suggestions by/before next Wednesday, January 17<sup>th</sup> – currently, I'm planning to distribute the peer review materials packages on January 25<sup>th</sup> (but could adjust, if needed)

I understood that some revisions were underway for the Technology Response Spreadsheet, and that EPA will be providing a corrected version sometime next week.

Also please take a look at how I've inserted volume numbers into the reports (also attached), and hopefully my "tweak" will work to provide clarity for which volume is addressed by the charge questions.

As an update, this morning I emailed the three selected reviewers, and:

- Mr. Golaszewski quickly confirmed participation, and agreed to \$1000 honorarium
- Ms. Bezos-O'Connor also quickly confirmed participation; and of course, will not receive honorarium
- Waiting for response from Dr. Sabnis (may be away from his desk/computer)

Please don't hesitate to let me know if you have any questions.

Thanks,

Amy

Amy Doll Senior Associate EnDyna, Inc. 7926 Jones Branch Drive, Suite 620 McLean, VA 22102 adoll@endyna.com

Tel: 703-848-8842 ext. 111 Fax: 703-848-9001

From: Manning, Bryan [mailto:manning.bryan@epa.gov]

**Sent:** Thursday, January 04, 2018 11:27 AM **To:** Amy Doll; Viator, Catherine (viator@rti.org)

**Cc:** Jones, Jason; Smita Siddhanti; Mueller, John; Yen, David **Subject:** RE: WA 1-15 Task 1 Peer Reviewer Selection Memo

Thank you for the peer reviewer selection memo, Amy. We have no comments on this memo. Your plan sounds good to us.

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Amy Doll [mailto:adoll@endyna.com]
Sent: Wednesday, January 03, 2018 4:33 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Viator, Catherine (viator@rti.org) <viator@rti.org>

Cc: Jones, Jason <jasonjones@rti.org>; siddhanti@endyna.com; Mueller, John <mueller.john@epa.gov>; Yen, David

<Yen.David@epa.gov>

Subject: WA 1-15 Task 1 Peer Reviewer Selection Memo

Hi Bryan

Attached please find the Task 1 Peer Reviewer Selection Memo, for EPA's review.

During the December 15<sup>th</sup> kick-off conference call, and subsequent email communications, RTI and EnDyna understood that EPA could provide any comments by/before COB January 5<sup>th</sup>. We agreed this turnaround will facilitate starting the peer review of the technology/cost draft report during January 2018 in order to avoid overlapping with the subsequent peer review for the emissions draft report.

| As a reminder,     | Ex. 6 Personal Privacy (PP  | and Jason Jones (Contract                      |
|--------------------|-----------------------------|--|
| PM) will cover for | Ex. 6 Personal Privacy (PP) | may be able to respond occasionally to emails. |

Please do not hesitate to let me know if you have any questions about the Peer Reviewer Selection Memo.

Happy New Year,

Amy

Amy Doll Senior Associate EnDyna, Inc. 7926 Jones Branch Drive, Suite 620 McLean, VA 22102 adoll@endyna.com

Tel: 703-848-8842 ext. 111 Fax: 703-848-9001

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]

**Sent**: 11/7/2016 9:38:34 PM

**To**: Maeroff, Bruce [Maeroff.Bruce@epa.gov]

Subject: FW: Boeing presentation materials from Nov 2 meeting - attachment 2

Attachments: Sustainable Aviation Biofuel Boeing - EPA Nov 2016.pptx

Bruce, see below/attached. Thanks. Bryan

From: Pagano, Peter A [mailto:peter.a.pagano@boeing.com]

**Sent:** Monday, November 07, 2016 1:17 PM **To:** Manning, Bryan <manning.bryan@epa.gov>

Subject: Boeing presentation materials from Nov 2 meeting - attachment 2

Here's the second attachment. Thanks again.

All the best,

Peter A. Pagano Director, Environment The Boeing Company 703-414-6486

Email: peter.a.pagano@boeing.com

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]

**Sent**: 9/29/2015 4:40:33 PM

**To**: Menon, Chirag [Chirag.Menon@icfi.com]

CC: Zimm, Peter [Peter.Zimm@icfi.com]; McDonald, Glenn [GMcDonald@icfi.com]; Staniec, Kali [Kali.Staniec@icfi.com]

Subject: RE: ICF-Averaging & Banking Mechanisms for Aviation CO2 Emissions Regulation Paper

Attachments: ICF - Averaging Banking Mechanisms for Aviation CO2 Emissions Regulation- September 25th+BM.docx

Thank you for the draft report, Chirag. It looks good. I have a few comments (suggested revised text and comment boxes throughout), which are provided in the attachment. You should be able to respond to these comments (or make revisions based on these comments) by COB September 30. Let me know if you have any questions.

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Menon, Chirag [mailto:Chirag.Menon@icfi.com]

Sent: Friday, September 25, 2015 6:25 PM

To: Manning, Bryan

Cc: Zimm, Peter; McDonald, Glenn; Staniec, Kali

Subject: ICF-Averaging & Banking Mechanisms for Aviation CO2 Emissions Regulation Paper

Hi Bryan,

Please find attached the first draft of the report.

Please let us know if you have any questions and we look forward to hearing from you next week.

Best.

Chirag

Chirag Menon | Research Assistant | 734.929.6180 (office) | <a href="mailto:chirag.menon@icfi.com">chirag.menon@icfi.com</a> | <a href="mailto:icfi.com/aviation">icfi.com/aviation</a> | <a href="mailto:chirag.menon@icfi.com">Icfi.com/aviation</a> | <a href="mailto:chirag.menon@icfi.com">Icfi.com</a> | <a href="mailto:chirag.menon@icfi.com">Icf



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From: Yen, David [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=865CA449DD0F405A949A635615E68827-YEN, DAVID]

**Sent**: 2/12/2018 8:07:05 PM

To: Lindsey, Leah [lindsey.leah@epa.gov]; Gerring, Holly [gerring.holly@epa.gov]

**Subject**: RE: updated example FE output file

Attachments: Project2b A380-TA4 plots.xlsx; 2015 OPERATIONS RATES freight FE011618+ATK NIS 021218.xlsx; INTERNAL

Tech Response Spreadsheet 11-6-7v2+LL 12-26-17 GR-Type FR-MPL 021218.xlsx

Hello Leah and Holly,

## Ex. 5 - Deliberative Process

Thanks, David

From: Yen, David

Sent: Friday, February 09, 2018 12:23 PM

To: Lindsey, Leah < lindsey.leah@epa.gov>; Gerring, Holly < gerring.holly@epa.gov>

Subject: updated example FE output file

Hi Leah and Holly,

### Ex. 5 - Deliberative Process

EPA-HQ-2018-004348

Thanks, David